

First description of the female of *Evarcha hirticeps* (Araneae: Salticidae)

Shanjie Zha & Feng Zhang*

The Key Laboratory of Invertebrate Systematics and Application, College of Life Sciences, Hebei University,
Baoding, Hebei 071002, P. R. China

*Corresponding author. E-mail: dudu06042001@163.com

Abstract — The female of *Evarcha hirticeps* (Song & Chai 1992) is described and illustrated for the first time by specimens from Jiulong Mountains of Zhejiang, and Wuyi Mountains of Fujian, China.

Key words — *Evarcha hirticeps*, taxonomy, female description, China

Introduction

The genus *Evarcha* was established by Simon (1902) for the type species *Araneus falcatus* Clerck 1757. At present, it includes 90 species which are mainly found in Southeast Asia and South Africa (Metzner 2014, Ono 2009, Platnick 2014). However, almost half of the known species are described from single sex (Platnick 2014). A total of 24 species have been reported from China, among them 10 species are single sex (Li & Wang 2014; Peng et al. 1993; Song et al. 1999; Tang & Yang 1995). *Pharacocerus hirticeps* was described firstly by Song & Chai (1992) for a male specimen from Dongba County, Hubei Province, China, then Song et al. (1999) transferred it to the genus *Evarcha*. Peng et al. (1993) described a new species named *E. hunanensis*, but Yin et al. (2012) synonymized it with *E. hirticeps*.

While studying the *Evarcha* specimens collected from Jiulong Mountains, Zhejiang Province, China, we found two pairs of male and female *Evarcha* specimens in the same locality. We identified the male as *E. hirticeps*. The female specimens have habitus and markings which are very similar to those of the male *E. hirticeps*. In addition, we also found 4 male and 5 female specimens from Mt. Wuyi, Fujian Province, which have the identical features with the specimens from Jiulong Mountains. Therefore we believe both males and females are the species *E. hirticeps*. The females are described here for the first time.

Material and methods

All specimens are preserved in 75% alcohol and were examined, drawn with the aid of a prism mounted above eyepiece of a compound microscope and under a Leica M205A stereomicroscope equipped with a drawing tube. Photographs were also taken by Leica M205A stereomicroscope equipped with a DFC450 CCD. The epigyne was cleared in a solution of potassium hydroxide (KOH) and transferred to 75% alcohol for drawing. All measurements are given in millimeters. Carapace length

was measured from the anterior margin to the posterior margin. Body length was measured from anterior margin of carapace to posterior tip of abdomen (including petiolus). The measurements of legs are as follows: total length (femur + patella + tibia + metatarsus + tarsus). All specimens studied in this paper are deposited in the Museum of Hebei University (MHB), Baoding, China.

The following abbreviations are used: AERW, anterior eye row width; ALE, anterior lateral eye; AME, anterior median eye; EL, eye field length; HBRI, the Hunan Biology Research Institute, Changsha; IOZ, the Institute of Zoology, Chinese Academy of Sciences, Beijing; PERW, posterior eye row width; PLE, posterior lateral eye; PME, posterior median eye; RTA, retrolateral tibial apophysis.

Evarcha hirticeps (Song & Chai 1992)
(Figs. 1–10)

Pharacocerus hirticeps Song & Chai 1992: 80, figs. 7A–C; Song & Li 1997: 436, figs. 46A–C (male holotype, collected from Dongba County, Hubei, 21 May 1989; in IOZ; not examined).

Evarcha hirticeps: Song et al. 1999: 510, figs. 294K–L; Yin et al. 2012: 1364, figs. 740a–d.

Evarcha hunanensis Peng et al. 1993: 9, figs. 12–15; Song et al. 1999: 510, figs. 294M–N (male holotype, collected from Yizhang County, Hunan, 20 June 1982, in HBRI; not examined).

Specimens examined. Yangmaoyuan (N 28°21', E 118°52'), Jiulong Mountain Natural Reserve Region, Zhejiang Province, China, 2 males, 2 females, 4 June 2013, Shanjie Zha leg.; Zhikeng (N 27°45', E 117°40'), Wuyi Mountain Natural Reserve Region, Fujian Province, China, 1 male, 1 female, 19 July 2003, Feng Zhang leg.; 1 male, 1 female, 18 May 2004, Feng Zhang leg.; Taoyuanyu (N 27°44', E 117°40'), Wuyi Mountain Natural Reserve Region, 2 females, 25 May 2004, Feng Zhang leg.; 1 female, 9 June 2013, Chi Jin leg.; Dawang Peak (N 27°28', E 117°58'), Wuyi Mountain

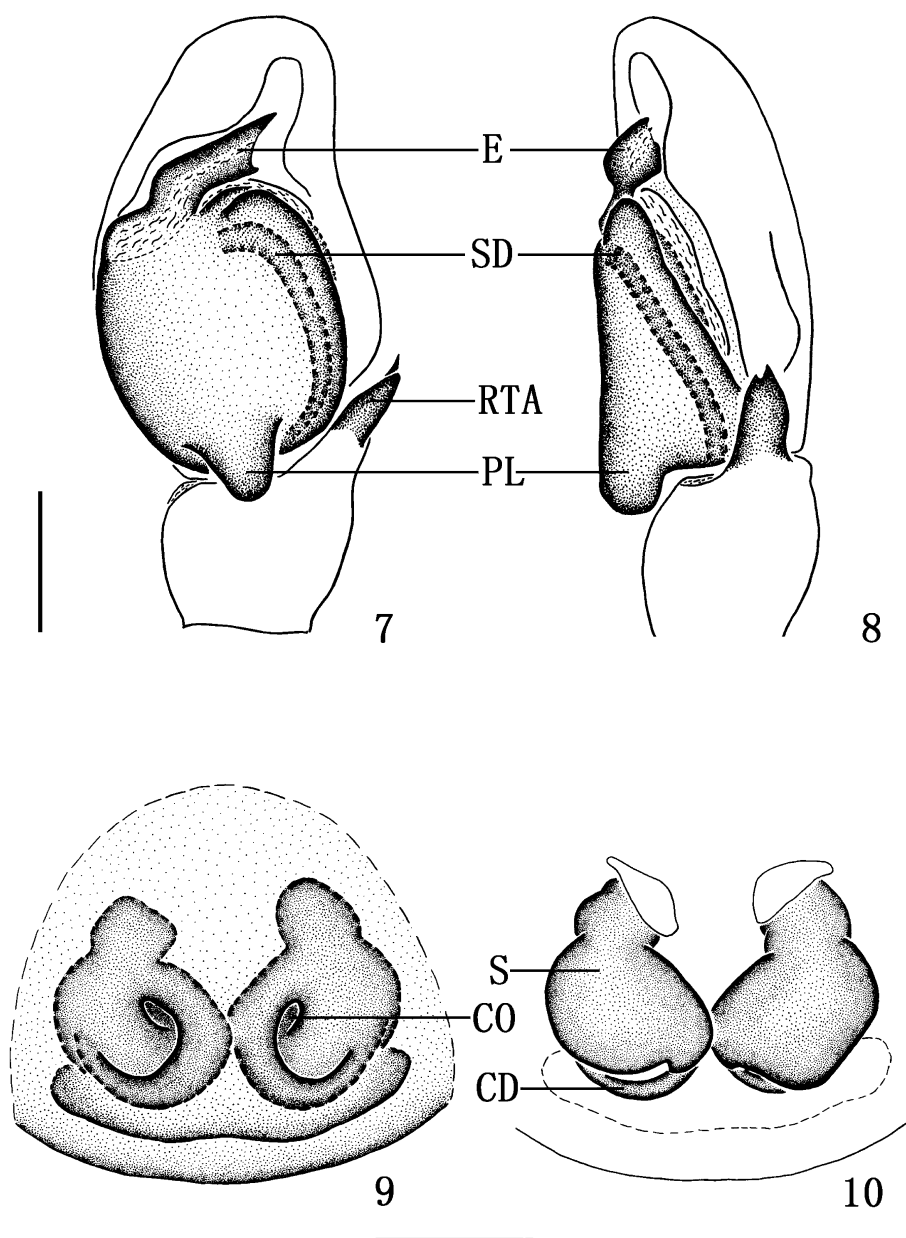


Figs. 1–6. *Evarcha hirticeps* (Song & Chai 1992). 1, female habitus, dorsal view; 2, male habitus, dorsal view; 3, epigyne, ventral view, 4, vulva, dorsal view; 5, male left palp, ventral view, 6, same, retrolateral view. Scales = 2 mm (1–2); 0.2 mm (3–6).

Natural Reserve Region, 1 male, 1 August 2010, Feng Zhang leg.; Moshikeng (N 27°59', E 118°13'), Wuyi Mountain Natural Reserve Region, 1 male, 4 June 2013, Chi Jin leg.

Diagnosis. Among the congeners, the male of *E. hirticeps* is very similar to *E. orientalis* (Song & Chai 1992: 80, fig. 8) and *E. sichuanensis* (Peng et al. 1993: 18, figs.

22–19), but can be distinguished by the broader and shorter posterior lobe of bulb, the longer embolus, and the longer RTA. The female of *E. hirticeps* closely resembles *E. flavocincta* (C. L. Koch 1846) (Yin et al. 2012: 1363, figs. 739a–d) in having very similar habitus and epigyne, but it differs from the latter in the obviously expanded spermathecae and the not twisted copulatory ducts. The



Figs. 7–10. *Evarcha hirticeps* (Song & Chai 1992). 7, male left palp, ventral view; 8, same, retrolateral view; 9, epigyne, ventral view; 10, vulva, dorsal view. Scales=0.25 mm. Abbreviations: CD=copulatory ducts, CO=copulatory opening, E=embolus, PL=posterior lobe, S=spermathecae, SD=sperm duct.

female also resembles *E. laetabunda* (C. L. Koch 1846) (Song et al. 1999: 510, figs. 294G–H) in the expanded spermathecae, but differs from the latter in the broader and longer median septum.

Description. *Male* (from Jiulong Mountains, Zhejiang). Body length 6.35–6.89. One specimen measured, body length 6.89: cephalothorax length 3.22, width 2.44; abdomen length 3.58, width 1.98. Carapace (Fig. 2) dark brown, ocular area dark with scattered white hairs. Eye sizes and interdistances: AME 0.56, ALE 0.34, PME 0.07, PLE 0.16; AERW 1.56, PERW 1.75, EL 1.48. Clypeal height 0.18, dark brown with sparse brown hairs. Chelicerae dark red brown, with 2 promarginal teeth and 1 retromarginal tooth.

Labium length 0.34, width 0.50. Sternum length 1.25, width 0.84. Petiolus obvious. Leg measurements: leg I 5.73 ($1.87+0.67+1.44+1.10+0.65$); II 4.96 ($1.69+0.61+1.39+0.69+0.58$); III 5.82 ($2.13+0.84+1.15+1.02+0.68$); IV 5.68 ($1.90+0.75+1.03+1.08+0.92$); Leg formula: 3142. Legs dark brown with ring-shaped markings. Abdomen elliptic, longer than wide; dorsally sides light brown with many hairs; laterally dark brown with 4–6 light-colored arc-shaped lines.

Palp (Figs. 5–8). Bulb dark yellow, with distinct posterior lobe; RTA long and digitiform, tip biforked from the retrolateral view; embolus stout, with membranous stripe centrally; sperm duct originating at the 12 o'clock position

(Figs. 7).

Female (from Jiulong Mountains, Zhejiang). Body length 8.14–8.50. One specimen measured, body length 8.50: cephalothorax length 3.32, width 2.43; abdomen length 4.25, width 2.54. Carapace (Fig. 1) dark brown. Eye sizes and interdistances: AME 0.62, ALE 0.34, PME 0.07, PLE 0.17; AERW 1.46, PERW 1.63, EL 1.48. Clypeal height 0.12. Labium length 0.34, width 0.48. Sternum length 1.46, width 0.84. Leg measurements: leg I 5.88 (1.68, 0.93, 1.58, 0.87, 0.82); II 4.92 (1.58, 0.60, 1.48, 0.68, 0.58); III 6.19 (2.11, 1.07, 1.15, 0.95, 0.91); IV 5.19 (1.64, 0.73, 1.04, 0.93, 0.85). Leg formula: 3142. Other somatic characters as in male.

Epigyne (Figs. 3, 9). Median septum relatively broad; copulatory opening positioned in the middle part of the epigyne. Vulva (Figs. 4, 10). Copulatory ducts long, without coils; spermatheca gourd-like and aparted from each other.

Distribution. China (Hubei, Hunan, Zhejiang, Fujian).

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